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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,816

10/17/2003

Lik Son Wong

TI-33449.1

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04/04/2005

TEXAS INSTRUMENTS INCORPORATED
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EXAMINER

NGUYEN, THANH T

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/688,816	Applicant(s) WONG, LIK SON	
	Examiner Thanh T. Nguyen	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

In view of the election/restriction requirement mailed on 3/3/05 has been withdrawn.

Information Disclosure Statement

The information disclosure statement filed 10/17/03 has been considered.

Oath/Declaration

Oath/Declaration filed on 10/17/03 has been considered.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2813

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sabersky et al. (U.S. Patent No. 4,827,436).

Referring to figures 2-13, Sabersky et al. teaches a semiconductor test apparatus, comprising: a tool operable to measure the relative positions of contacts (pin, 114, see figures 2, 5) on a packaged semiconductor device (312),

a computer (see col. 17, lines 37-38, figures 11) operable to use said relative positions to determine seating planes formed by tilting said device (col. 17, lines 5-22) to one or more of its corners and/or sides such that each said plane comprises contacts at or adjacent to the corners of device (see col. 7, lines 1-29), the computer further operable to calculate a highest deviation from contact coplanarity (see col. 7, lines 54-56), using said measured relative contact positions and said seating planes (see col. 7, lines 1-68, col. 8, lines 1-31, col. 14, lines 60-68, figure 21).

Regarding to claim 11, where said computer is further operable to compare said highest deviation from contact (pin) coplanarity to a pre-determined specification (see col. 5, lines 10-31).

Regarding to claim 12, a device for separating packaged semiconductor devices having deviations from contact (pin) coplanarity that exceed said pre-determined specification from packaged semiconductor devices (J-lead) that do not exceed said pre-determined specification (col. 6, lines 42-45, col. 1, lines 60-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabersky et al. (U.S. Patent No. 4,827,436) as applied to claims 10-12 above, in view of Haugan et al. (U.S. Patent No. 6,118,538).

Sabersky et al. teaches a contact on a packaged semiconductor device. However, the reference does not teach the contacts on a packaged semiconductor device comprise leads extending in a gull-wing pattern from the device, and solder balls extending from a bottom side of the device.

Haugan et al. teaches regarding to claim 13, wherein the contacts on a packaged semiconductor device comprise leads extending in a gull-wing pattern from said device (see col. 1, lines 45-68, col. 2, lines 1-16). Regarding to claim 14, the contacts on a packaged semiconductor device comprise solder balls extending from a bottom side of said device (col. 2, lines 1-16).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art the time of the invention was made would provide the contacts on a packaged semiconductor device comprise leads extending in a gull-wing pattern from the device, and solder balls extending from a bottom side of the device in Sabersky et al. as taught by Haugan et al. because it would

Art Unit: 2813

provide faster determination lead position and coplanarity of the leads to improve quality control at low cost, both in capital expenses and production times.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached on (571) 272-1702. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).

A handwritten signature in black ink, appearing to read 'Thanh', with a long horizontal stroke extending to the left.

Thanh Nguyen
Patent Examiner
Patent Examining Group 2800

TTN

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